ENGINEERING STANDARDS APPLICABLE TO ALLOCATION OF STANDARD BROADCASTING STATIONS (540-1600 KCS.)

Exchange of notes at Washington December 24, 1947, and April 1, 1948 [1]
Entered into force April 1, 1948
Terminated April 19, 1960, upon entry into force of North American Regional Broadcasting Agreement of November 15, 1950 [2]

62 Stat. 2652; Treaties and Other International Acts Series 1802

The Secretary of State to the Canadian Ambassador

DEPARTMENT OF STATE
WASHINGTON
Dec 24, 1947

EXCELLENCY:

I have the honor to refer to discussions in Atlantic City, New Jersey, between representatives of the Government of Canada and representatives of the Government of the United States concerning the matter of a mutual understanding as to engineering standards applicable to the allocation of standard broadcasting stations in the band of frequencies extending from 540 to 1600 kilocycles.

As a result of those discussions, the Government of the United States agrees to enter into an arrangement with the Government of Canada, effective as of the date of their reply, permitting the mutual application of the following engineering standards which will be considered as amending those engineering standards already in effect between the United States and Canada by virtue of provisions set forth in the North American Regional Broadcasting Agreement signed at Habana, Cuba, on December 13, 1937,[3] as continued in application by the terms of the Interim Agreement (Modus Vivendi, Washington, February 25, 1946.)[4]

[1] For two graphs enclosed in U.S. note, see 62 Stat. 2655–6 or pp. 4–6 of TIAS 1802.
[2] 11 UST 413; TIAS 4460.
[3] TS 962, *ante*, vol. 3, p. 503.
[4] TIAS 1553, *ante*, vol. 4, p. 38.

"1. 10% Skywave Signal Range Curves, 540 kilocycles to 1600 kilocycles, incorporating latitude effect.

"The attached family of curves entitled '10% Skywave Signal Range, 540 kilocycles to 1600 kilocycles', designated Figure 1–A, showing resultant skywave fields from an antenna of height H=0.311 wavelength radiating 100 milivolts per meter at the angle Θ (theta) pertinent to transmission by one reflection, will be recognized as acceptable for use in lieu of the 10% skywave curve appearing in Appendix V of the North American Regional Broadcasting Agreement, in computing signal intensities at the station receiving interference. It is further recognized that the 10% Skywave Signal Range Curves, 540 kilocycles to 1600 kilocycles, will be applied only to allocation matters on regional channels, and is not considered applicable to allocation matters as between Class II stations on clear channels, in which cases Appendix V will be controlling.

"2. Angles of Departure versus Transmission Range.

"(a) The attached family of curves entitled 'Angles of Departure versus Transmission Range' for use in the band 540 kilocycles to 1600 kilocycles will be recognized as acceptable for use concurrently with the 10% Skywave Signal Range Curves (Figure 1–A) for determining the value of an interfering signal to an existing station.

"(b) The antenna system's maximum theoretical radiated field which exists between the limits defined by curves 4 and 5 for the pertinent angle of departure Θ (theta) will be used to compute, from Figure 1–A, the interfering signal.

"3. 50% Root-Sum-Square.

"(a) Objectionable interference shall be deemed to exist to a station when the root-sum-square value of interfering field intensities, except in the case of Class IV stations on local channels, is increased to exceed that value obtained by considering the signals in order of decreasing magnitude, adding the squares of the values and extracting the square root of the sum, excluding those signals which are less than 50% of the root-sum-square value of the higher signals already included.

"(b) The root-sum-square value will not be considered to be increased when a new interfering signal is added which is less than 50% of the root-sum-square value of the interference from existing stations, and which at the same time is not greater than the smallest signal included in the root-sum-square value of interference from existing stations.

"(c) It is recognized that application of the above '50% exclusion' method of calculating root-sum-square interference may result in some cases in anomalies wherein the addition of a new interfering signal or the increase in value of an existing interfering signal will cause the exclusion of a previously included signal and may cause a decrease in the calculated root-sum-

square value of interference. In such instances, the following alternate method for calculating the proposed root-sum-square values of interference will be employed wherever applicable.

"(d) In the cases where it is proposed to add a new interfering signal which is not less than 50% of the root-sum-square value of interference from existing stations or which is greater than the smallest signal already included to obtain this root-sum-square value, the root-sum-square limitation after addition of the new signal shall be calculated without excluding any signal previously included. Similarly, in cases where it is proposed to increase the value of one of the existing interfering signals which has been included in the root-sum-square value, the root-sum-square limitation after the increase shall be calculated without excluding interference from any source previously included.

"(e) If the new or increased signal proposed in such cases is ultimately accepted, the root-sum-square values of interference to other stations affected will thereafter be calculated by the '50% exclusion' method without regard to the alternate method of calculation.

"(f) The 50% root-sum-square rule is recognized as applicable between any and all Class III stations on regional channels and between only Class II stations on clear channels."

I suggest that, if an agreement in the sense of the foregoing paragraphs is acceptable to the Government of Canada, this note and your reply thereto in similar terms be regarded as constituting the terms of an understanding on the subject between the two Governments.

Accept, Excellency, the renewed assurances of my highest consideration.

For the Acting Secretary of State:
GARRISON NORTON

Enclosures: [5]
Two graphs as follows:
1. "10% Skywave Signal Range, 540 kilocycles to 1600 kilocycles".
2. "Angles of Departure versus Transmission Range".

His Excellency
HUME WRONG,
Ambassador of Canada.

The Canadian Ambassador to the Secretary of State

CANADIAN EMBASSY
AMBASSADE DU CANADA

No. 135 APRIL 1, 1948

SIR:

I have the honour to refer to the note dated December 24th, 1947, and its enclosures, from the Acting Secretary of State concerning the matter of a

[5] See footnote 1, p. 466.

mutual understanding between Representatives of the Government of the United States and Representatives of the Government of Canada as to engineering standards applicable to the allocation of standard broadcasting stations in the Band of frequencies extending from 540 to 1600 Kilocycles.

I am directed by my Government to inform you that an Agreement in the sense described in the Note under reference from the Acting Secretary of State is acceptable to it and that the note from the Acting Secretary of State and this reply be regarded as constituting the terms of an understanding on the subject, effective as of today's date, between the Government of the United States and the Government of Canada.

I have the honour to be, Sir,

Your obedient Servant.

H. H. WRONG

The Honourable GEORGE C. MARSHALL,
Secretary of State,
Washington, D.C.